

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: markspencer

Timestamp: Mon Sep 10 08:42:05 EDT 2007

=====

Application No: 10588082 Version No: 1.0

Input Set:

Output Set:

Started: 2007-08-21 09:57:21.555
Finished: 2007-08-21 09:57:21.749
Elapsed: 0 hr(s) 0 min(s) 0 sec(s) 194 ms
Total Warnings: 0
Total Errors: 0
No. of SeqIDs Defined: 4
Actual SeqID Count: 4

SEQUENCE LISTING

<110> Fogh, Jens
Irani, Meher
Andersson, Claes
Weigelt, Cecilia
Christer Moller
Pia Hyden

<120> PRODUCTION AND PURIFICATION OF ARYL SULFATASE A

<130> 33686PC01

<140> 10588082
<141> 2007-08-21

<150> PA200400144
<151> 2004-01-30

<150> US 60/540,061
<151> 2004-01-30

<160> 4

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 1524
<212> DNA
<213> Homo Sapiens

<400> 1
atggggcac cgcggtccct cctcctggcc ctggctgctg gcctggccgt tgcacgtccg 60
cccaacatcg tgctgatctt tgccgacgac ctggctatg gggacctggg ctgctatggg 120
caccccaagct ctaccactcc caacctggac cagctggcgg cgggagggct gcggttcaca 180
gacttctacg tgcctgtgtc tctgtgcaca ccctcttaggg ccgccttcct gaccggccgg 240
ctcccggttc ggatgggcat gtaccctggc gtccctgggtgc ccagctcccgg gggggggctg 300
cccctggagg aggtgaccgt ggccgaagtc ctggctgccc gaggctacct cacaggaatg 360
gccggcaagt ggcacattgg ggtggggcct gagggggcct tcctgcaccc ccatcagggc 420
ttccatcgat ttcttaggcat cccgtactcc cacgaccagg gcccctgcca gaacctgacc 480
tgcttcccgc cggccactcc ttgcgacggt ggctgtgacc agggcctgggt cccatccca 540
ctgttggcca acctgtccgt ggaggcgcag ccccccggc tgccccggact agaggccgc 600
tacatggctt tgcggcatga cctcatggcc gacgcccagg gccaggatcg ccccttcttc 660
ctgtactatg cctctcacca caccactac cctcagttca gtgggcagag ctttgcagag 720
cgttcaggcc gccccccatt tggggactcc ctgatggagc tggatgcagc tgtggggacc 780
ctgatgacag ccatagggaa cctggggctg cttgaagaga cgctggcat cttcactgca 840
gacaatggac ctgagaccat gcgtatgtcc cgaggcggct gctccggct cttgcgggt 900
ggaaaggaa cgacctacga gggcggtgtc cgagagcctg cttggccctt ctggccaggt 960
catatcgctc cccgcgtgac ccacgagctg gccagctccc tggacctgct gcctaccctg 1020
gcaggccctgg ctggggccccc actgccaat gtcacattgg atggcttga cctcagcccc 1080
ctgctgctgg gcacaggcaa gagccctcg cagtctctt tcttctaccc gtcctaccct 1140
gacgagggtcc gtggggttt tgctgtgcgg actggaaagt acaaggctca cttttcacc 1200
caggcgtctg cccacagtga taccactgca gaccctgcct gccacgcctc cagctctctg 1260
actgctcatg agcccccgct gctctatgac ctgtccaagg accctggtga gaactacaac 1320
ctgctggggg gtgtggccgg ggccacccca gaggtgctgc aagccctgaa acagctcag 1380
ctgctcaagg cccagttaga cgcagctgtg accttcggcc ccagccaggt ggcccggggc 1440

gaggaccccg ccctgcagat ctgctgtcat cctggctgca ccccccgcggc agcttgc1500
cattgccccag atccccatgc ctga 1524

<210> 2

<211> 507

<212> PRT

<213> Homo Sapiens

<400> 2

Met Gly Ala Pro Arg Ser Leu Leu Leu Ala Leu Ala Ala Gly Leu Ala
1 5 10 15
Val Ala Arg Pro Pro Asn Ile Val Leu Ile Phe Ala Asp Asp Leu Gly
20 25 30
Tyr Gly Asp Leu Gly Cys Tyr Gly His Pro Ser Ser Thr Thr Pro Asn
35 40 45
Leu Asp Gln Leu Ala Ala Gly Gly Leu Arg Phe Thr Asp Phe Tyr Val
50 55 60
Pro Val Ser Leu Cys Thr Pro Ser Arg Ala Ala Leu Leu Thr Gly Arg
65 70 75 80
Leu Pro Val Arg Met Gly Met Tyr Pro Gly Val Leu Val Pro Ser Ser
85 90 95
Arg Gly Gly Leu Pro Leu Glu Glu Val Thr Val Ala Glu Val Leu Ala
100 105 110
Ala Arg Gly Tyr Leu Thr Gly Met Ala Gly Lys Trp His Leu Gly Val
115 120 125
Gly Pro Glu Gly Ala Phe Leu Pro Pro His Gln Gly Phe His Arg Phe
130 135 140
Leu Gly Ile Pro Tyr Ser His Asp Gln Gly Pro Cys Gln Asn Leu Thr
145 150 155 160
Cys Phe Pro Pro Ala Thr Pro Cys Asp Gly Gly Cys Asp Gln Gly Leu
165 170 175
Val Pro Ile Pro Leu Leu Ala Asn Leu Ser Val Glu Ala Gln Pro Pro
180 185 190
Trp Leu Pro Gly Leu Glu Ala Arg Tyr Met Ala Phe Ala His Asp Leu
195 200 205
Met Ala Asp Ala Gln Arg Gln Asp Arg Pro Phe Phe Leu Tyr Tyr Ala
210 215 220
Ser His His Thr His Tyr Pro Gln Phe Ser Gly Gln Ser Phe Ala Glu
225 230 235 240
Arg Ser Gly Arg Gly Pro Phe Gly Asp Ser Leu Met Glu Leu Asp Ala
245 250 255
Ala Val Gly Thr Leu Met Thr Ala Ile Gly Asp Leu Gly Leu Leu Glu
260 265 270
Glu Thr Leu Val Ile Phe Thr Ala Asp Asn Gly Pro Glu Thr Met Arg
275 280 285
Met Ser Arg Gly Gly Cys Ser Gly Leu Leu Arg Cys Gly Lys Gly Thr
290 295 300
Thr Tyr Glu Gly Gly Val Arg Glu Pro Ala Leu Ala Phe Trp Pro Gly
305 310 315 320
His Ile Ala Pro Gly Val Thr His Glu Leu Ala Ser Ser Leu Asp Leu
325 330 335
Leu Pro Thr Leu Ala Ala Leu Ala Gly Ala Pro Leu Pro Asn Val Thr
340 345 350
Leu Asp Gly Phe Asp Leu Ser Pro Leu Leu Leu Gly Thr Gly Lys Ser
355 360 365
Pro Arg Gln Ser Leu Phe Phe Tyr Pro Ser Tyr Pro Asp Glu Val Arg
370 375 380

Gly	Val	Phe	Ala	Val	Arg	Thr	Gly	Lys	Tyr	Lys	Ala	His	Phe	Phe	Thr
385					390					395					400
Gln	Gly	Ser	Ala	His	Ser	Asp	Thr	Thr	Ala	Asp	Pro	Ala	Cys	His	Ala
									405						415
Ser	Ser	Ser	Leu	Thr	Ala	His	Glu	Pro	Pro	Leu	Leu	Tyr	Asp	Leu	Ser
								420			425				430
Lys	Asp	Pro	Gly	Glu	Asn	Tyr	Asn	Leu	Leu	Gly	Gly	Val	Ala	Gly	Ala
								435			440				445
Thr	Pro	Glu	Val	Leu	Gln	Ala	Leu	Lys	Gln	Leu	Gln	Leu	Leu	Lys	Ala
								450			455				460
Gln	Leu	Asp	Ala	Ala	Val	Thr	Phe	Gly	Pro	Ser	Gln	Val	Ala	Arg	Gly
								465			470				480
Glu	Asp	Pro	Ala	Leu	Gln	Ile	Cys	Cys	His	Pro	Gly	Cys	Thr	Pro	Arg
									485			490			495
Pro	Ala	Cys	Cys	His	Cys	Pro	Asp	Pro	His	Ala					
									500			505			

<210> 3
<211> 489
<212> PRT
<213> Homo Sapiens

<220>
<221> FORMYLATION
<222> 51
<223> C-alpha Formylglycine

<400> 3
Arg Pro Pro Asn Ile Val Leu Ile Phe Ala Asp Asp Leu Gly Tyr Gly
1 5 10 15
Asp Leu Gly Cys Tyr Gly His Pro Ser Ser Thr Thr Pro Asn Leu Asp
20 25 30
Gln Leu Ala Ala Gly Gly Leu Arg Phe Thr Asp Phe Tyr Val Pro Val
35 40 45
Ser Leu Xaa Thr Pro Ser Arg Ala Ala Leu Leu Thr Gly Arg Leu Pro
50 55 60
Val Arg Met Gly Met Tyr Pro Gly Val Leu Val Pro Ser Ser Arg Gly
65 70 75 80
Gly Leu Pro Leu Glu Glu Val Thr Val Ala Glu Val Leu Ala Ala Arg
85 90 95
Gly Tyr Leu Thr Gly Met Ala Gly Lys Trp His Leu Gly Val Gly Pro
100 105 110
Glu Gly Ala Phe Leu Pro Pro His Gln Gly Phe His Arg Phe Leu Gly
115 120 125
Ile Pro Tyr Ser His Asp Gln Gly Pro Cys Gln Asn Leu Thr Cys Phe
130 135 140
Pro Pro Ala Thr Pro Cys Asp Gly Gly Cys Asp Gln Gly Leu Val Pro
145 150 155 160
Ile Pro Leu Leu Ala Asn Leu Ser Val Glu Ala Gln Pro Pro Trp Leu
165 170 175
Pro Gly Leu Glu Ala Arg Tyr Met Ala Phe Ala His Asp Leu Met Ala
180 185 190
Asp Ala Gln Arg Gln Asp Arg Pro Phe Phe Leu Tyr Tyr Ala Ser His
195 200 205
His Thr His Tyr Pro Gln Phe Ser Gly Gln Ser Phe Ala Glu Arg Ser
210 215 220

Gly Arg Gly Pro Phe Gly Asp Ser Leu Met Glu Leu Asp Ala Ala Val
 225 230 235 240
 Gly Thr Leu Met Thr Ala Ile Gly Asp Leu Gly Leu Leu Glu Glu Thr
 245 250 255
 Leu Val Ile Phe Thr Ala Asp Asn Gly Pro Glu Thr Met Arg Met Ser
 260 265 270
 Arg Gly Gly Cys Ser Gly Leu Leu Arg Cys Gly Lys Gly Thr Thr Tyr
 275 280 285
 Glu Gly Gly Val Arg Glu Pro Ala Leu Ala Phe Trp Pro Gly His Ile
 290 295 300
 Ala Pro Gly Val Thr His Glu Leu Ala Ser Ser Leu Asp Leu Leu Pro
 305 310 315 320
 Thr Leu Ala Ala Leu Ala Gly Ala Pro Leu Pro Asn Val Thr Leu Asp
 325 330 335
 Gly Phe Asp Leu Ser Pro Leu Leu Gly Thr Gly Lys Ser Pro Arg
 340 345 350
 Gln Ser Leu Phe Phe Tyr Pro Ser Tyr Pro Asp Glu Val Arg Gly Val
 355 360 365
 Phe Ala Val Arg Thr Gly Lys Tyr Lys Ala His Phe Phe Thr Gln Gly
 370 375 380
 Ser Ala His Ser Asp Thr Thr Ala Asp Pro Ala Cys His Ala Ser Ser
 385 390 395 400
 Ser Leu Thr Ala His Glu Pro Pro Leu Leu Tyr Asp Leu Ser Lys Asp
 405 410 415
 Pro Gly Glu Asn Tyr Asn Leu Leu Gly Gly Val Ala Gly Ala Thr Pro
 420 425 430
 Glu Val Leu Gln Ala Leu Lys Gln Leu Gln Leu Leu Lys Ala Gln Leu
 435 440 445
 Asp Ala Ala Val Thr Phe Gly Pro Ser Gln Val Ala Arg Gly Glu Asp
 450 455 460
 Pro Ala Leu Gln Ile Cys Cys His Pro Gly Cys Thr Pro Arg Pro Ala
 465 470 475 480
 Cys Cys His Cys Pro Asp Pro His Ala
 485

<210> 4
 <211> 489
 <212> PRT
 <213> Homo Sapiens

<400> 4
 Arg Pro Pro Asn Ile Val Leu Ile Phe Ala Asp Asp Leu Gly Tyr Gly
 1 5 10 15
 Asp Leu Gly Cys Tyr Gly His Pro Ser Ser Thr Thr Pro Asn Leu Asp
 20 25 30
 Gln Leu Ala Ala Gly Gly Leu Arg Phe Thr Asp Phe Tyr Val Pro Val
 35 40 45
 Ser Leu Cys Thr Pro Ser Arg Ala Ala Leu Leu Thr Gly Arg Leu Pro
 50 55 60
 Val Arg Met Gly Met Tyr Pro Gly Val Leu Val Pro Ser Ser Arg Gly
 65 70 75 80
 Gly Leu Pro Leu Glu Glu Val Thr Val Ala Glu Val Leu Ala Ala Arg
 85 90 95
 Gly Tyr Leu Thr Gly Met Ala Gly Lys Trp His Leu Gly Val Gly Pro
 100 105 110
 Glu Gly Ala Phe Leu Pro Pro His Gln Gly Phe His Arg Phe Leu Gly

115	120	125
Ile Pro Tyr Ser His Asp Gln Gly Pro Cys Gln Asn Leu Thr Cys Phe		
130	135	140
Pro Pro Ala Thr Pro Cys Asp Gly Gly Cys Asp Gln Gly Leu Val Pro		
145	150	155
160		
Ile Pro Leu Leu Ala Asn Leu Ser Val Glu Ala Gln Pro Pro Trp Leu		
165	170	175
Pro Gly Leu Glu Ala Arg Tyr Met Ala Phe Ala His Asp Leu Met Ala		
180	185	190
Asp Ala Gln Arg Gln Asp Arg Pro Phe Phe Leu Tyr Tyr Ala Ser His		
195	200	205
His Thr His Tyr Pro Gln Phe Ser Gly Gln Ser Phe Ala Glu Arg Ser		
210	215	220
Gly Arg Gly Pro Phe Gly Asp Ser Leu Met Glu Leu Asp Ala Ala Val		
225	230	235
240		
Gly Thr Leu Met Thr Ala Ile Gly Asp Leu Gly Leu Leu Glu Glu Thr		
245	250	255
Leu Val Ile Phe Thr Ala Asp Asn Gly Pro Glu Thr Met Arg Met Ser		
260	265	270
Arg Gly Gly Cys Ser Gly Leu Leu Arg Cys Gly Lys Gly Thr Thr Tyr		
275	280	285
Glu Gly Gly Val Arg Glu Pro Ala Leu Ala Phe Trp Pro Gly His Ile		
290	295	300
Ala Pro Gly Val Thr His Glu Leu Ala Ser Ser Leu Asp Leu Leu Pro		
305	310	315
320		
Thr Leu Ala Ala Leu Ala Gly Ala Pro Leu Pro Asn Val Thr Leu Asp		
325	330	335
Gly Phe Asp Leu Ser Pro Leu Leu Gly Thr Gly Lys Ser Pro Arg		
340	345	350
Gln Ser Leu Phe Phe Tyr Pro Ser Tyr Pro Asp Glu Val Arg Gly Val		
355	360	365
Phe Ala Val Arg Thr Gly Lys Tyr Lys Ala His Phe Phe Thr Gln Gly		
370	375	380
Ser Ala His Ser Asp Thr Thr Ala Asp Pro Ala Cys His Ala Ser Ser		
385	390	395
400		
Ser Leu Thr Ala His Glu Pro Pro Leu Leu Tyr Asp Leu Ser Lys Asp		
405	410	415
Pro Gly Glu Asn Tyr Asn Leu Leu Gly Gly Val Ala Gly Ala Thr Pro		
420	425	430
Glu Val Leu Gln Ala Leu Lys Gln Leu Gln Leu Leu Lys Ala Gln Leu		
435	440	445
Asp Ala Ala Val Thr Phe Gly Pro Ser Gln Val Ala Arg Gly Glu Asp		
450	455	460
Pro Ala Leu Gln Ile Cys Cys His Pro Gly Cys Thr Pro Arg Pro Ala		
465	470	475
480		
Cys Cys His Cys Pro Asp Pro His Ala		
485		